



Sierra Monitor Company

## FieldServer X-25 Start-Up Guide



### APPLICABILITY & EFFECTIVITY

Effective for all systems manufactured after March 2009

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## 1 EQUIPMENT SET-UP

### 1.1 Supplied equipment

#### FS-X25 Series FieldServer.

- loaded with Modbus RTU driver, SMT Ethernet driver and any other drivers ordered. A default configuration file has already been loaded onto the FieldServer. Check the Driver Manual and the FieldServer Configuration Manual for further information on this file.

#### USB Flash Drive loaded with:

- FS-X25 Series Start-up Guide
- FieldServer Configuration Manual
- FieldServer Utilities Manual
- All FieldServer Driver Manuals
- Support Utilities
- Any additional folders related to special files configured for a specific FieldServer
- Additional components as required - See Driver Manual Supplement for details



#### Accessories:

- 7-ft Cat5 cable with RJ45 connectors at both ends (Part # FS-8915-10)
- Power Supply

### 1.2 Mounting

The FS-X25 Series FieldServer is supplied with an accessory bag which allows selection of adhesive feet (for standing on a shelf) or mounting plates for wall or panel mount. A DIN Rail Mounting Kit (P/N FS-8915-28) may be ordered separately.

### 1.3 Wiring

5-30VDC must be connected to the terminal block

#### 1.3.1 Compliance with UL Regulations

For UL compliance, the following instructions must be met when operating the FieldServer.

- The units shall be powered by listed LPS or Class 2 power supply suited to the expected operating temperature range.
- The interconnecting power connector and power cable shall:
  - Comply with local electrical code.
  - Be suited to the expected operating temperature range.
  - Meet the current and voltage rating for the FieldServer/Net
- Furthermore, the interconnecting power cable shall:
  - Be of length not exceeding 3.05m (118.3")
  - Be constructed of materials rated VW-1 or FT-1 or better.
- If the unit is to be installed in an operating environment with a temperature above 65 °C, it should be installed in a Restricted Access Area requiring a key or a special tool to gain access
- This device must not be connected to a LAN segment with outdoor wiring.

## 1.4 Specifications


Power requirements	
Multi-mode power adapter, 5V - 30V DC, 500 mA Optional: 110V/230V switchable power supply	
Physical Dimensions	
(LxWxD):	4.55 x 4.50 x 1.35 in. (11.56 x 11.68 x 3.43 cm)
Weight:	0.4 lb (0.18 Kg)
Field Connections	
Ethernet Port 10BaseT, 100BaseTX RJ45 (auto-sensing) Serial Port RS-232/RS-422/RS-485 switchable Up to 115K baud DB9 connector Drivers Drivers available for a wide range of Ethernet and serial protocols – check driver information sheet	
Environment:	
Operating Temperature:	-40-85°C (-40 – 185°F)
Humidity:	10 - 95% RH (non-condensing)
Approvals:	UL FCC Class A, Part 15 CE EN55022, EN 55024
(Specifications subject to change without notice)	

## 2 PRODUCT DESCRIPTION


### 2.1 Features

- Two DB-9 serial ports (defaulted to RS-485 unless specified differently at the time of purchase).
- Data communications speeds of 300 to 115200 baud supported.
- 10/100BaseT Ethernet LAN interface (auto-sensing)
- Easy configuration via text editor or spreadsheet and the available utilities.
- OPC server available
- Configuration utility
- Diagnostic utility
- System integration services available

### 2.2 LED Indicators

Ethernet connection – Tx/Rx communication activity		
Green LED – 10/100 indicator	LED on: 100 megabit connection	
	LED off: 10 megabit connection	
Orange LED – Link activity indicator	LED on: Link active	
	LED off: Link inactive	

Serial connection – CPU communication activity		
Serial 1, Serial 2	Flashes to indicate communication activity on the associated serial port	
CPU communication activity	Flashes once a second to indicate normal operation.	

### 3 CONNECTION TO THE DEVICE

#### 3.1 Serial Connection

A DB-9 cable should be connected between the Serial port on the FS-X25 and the serial port of the target serial device.

The Serial 1 port can be configured as either P1 (for RS-232 connection) or R1 (for RS-485 connection). Likewise the Serial 2 port can be configured as P2 or R2. Note that if a P1 and a R1 connection is declared, the one declared second will cause a configuration error on the error screen.

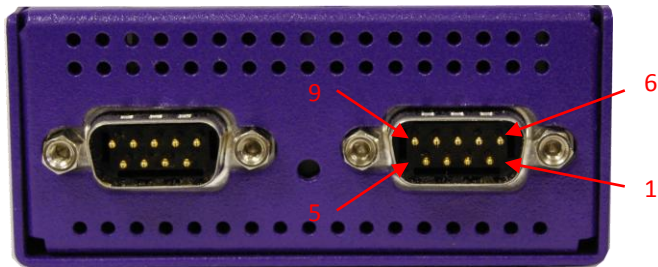


Figure 1: Serial Connection Ports

##### 3.1.1 DB-9 Pinouts for RS-232 Connection

Used to connect to DTE type devices.

Typical null modem connection. (Used when Hardware RTS→CTS flow control is required).				“3 wire” null modem connection (Used when Hardware RTS→CTS flow control is <i>not</i> required).			
Signal	DB-9 Pin	DB-9 Pin	Signal	Signal	DB-9 Pin	DB-9 Pin	Signal
TXD	3	2	RXD	TXD	3	2	RXD
RXD	2	3	TXD	RXD	2	3	TXD
RTS	7	8	CTS	RTS	7	8	CTS
CTS	8	7	RTS	CTS	8	7	RTS
DSR	6	4	DTR	DSR	6	4	DTR
DCD	1	1	DCD	DCD	1	1	DCD
DTR	4	6	DSR	DTR	4	6	DSR
GND	5	5	GND	GND	5	5	GND

The cable used (serial cross-over cable) is available at any electronics retailer/distributor.



## 4 OPERATION

### 4.1 Record Identification Data

Each FS-x25 has a unique serial number and MAC address located on the underside of the unit. These numbers should be recorded as they may be required for technical support.

Serial Number: \_\_\_\_\_

MAC Address: \_\_\_\_\_

### 4.2 Power up the device

- Apply power to the device. Ensure that the power supply used complies with the specifications provided in Section 1.3

### 4.3 Install and Run the Utility Software

- Plug the supplied USB flash drive into the USB port on a PC/laptop. Open Index.html to get the menu of options, run the Install option and follow the installation instructions.
- Once installed, the FieldServer Utilities can be located in the Windows Start menu and as a desktop icon.

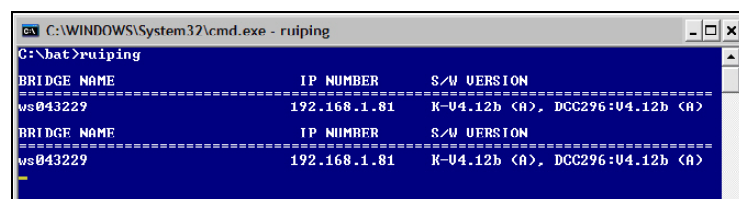
### 4.4 Connect the PC to the FieldServer over the Ethernet port.

- Use the supplied Cat5 UTP Ethernet cable to connect between the N1 port of the FieldServer and the hub. Refer to Section 3.2 for more information.
- Disable any wireless Ethernet adapters on the PC/Laptop,
- It is important that the PC/Laptop is on the same subnet as the FieldServer. The FS-x25 does not have a default IP address, but it will be 192.168.2.xxx. Refer to the FieldServer Utilities Manual for information on how to change the FieldServer's IP address.

### 4.5 Identification of the FieldServer on the Network

Select Start|Programs|FieldServer Utilities; double click on the Ruiping Utility. The display should show

FieldServer Name	IP Number (192.168.2.X)	FieldServerVersion
------------------	-------------------------	--------------------



```

C:\WINDOWS\System32\cmd.exe - ruiping
C:\bat>ruiping
BRIDGE NAME      IP NUMBER      S/W VERSION
ws043229         192.168.1.81   K-U4.12b <A>, DCC296:U4.12b <A>
BRIDGE NAME      IP NUMBER      S/W VERSION
ws043229         192.168.1.81   K-U4.12b <A>, DCC296:U4.12b <A>
  
```

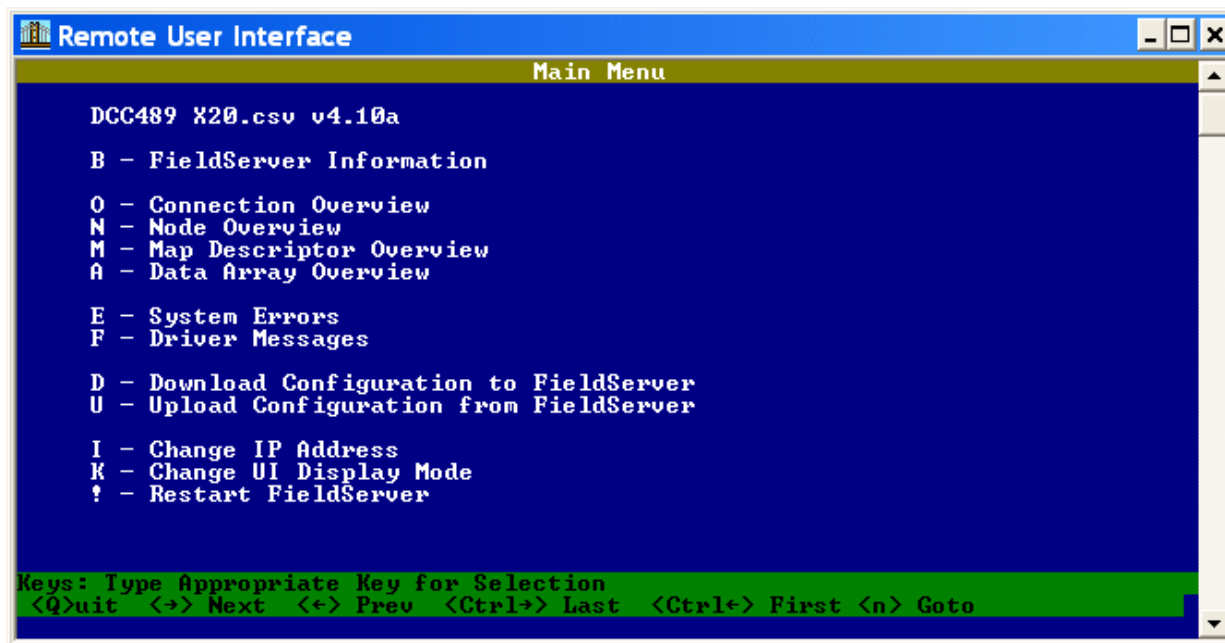
If necessary, refer to Appendix A for troubleshooting tips.



#### 4.6 Connection to the FieldServer Using RUI (Ruinet)

Select Start|Programs|FieldServer Utilities, double click on the Remote User Interface icon or double click on the Remote User Interface Icon on the desktop.

If Ruinet does not automatically bring you to the main menu, select the FieldServer by typing the 2-digit number to the left of the title name.



If necessary, refer to Appendix A for troubleshooting tips.

#### 4.7 Upload the Default Configuration

The configuration of the FieldServer is provided to the FieldServer's operating system via a comma-delimited file called "CONFIG.CSV". If ordered with the FieldServer, the custom configuration is installed; (Reference documentation FS-8790-XX). If a custom configuration is not purchased, a template config.csv is shipped on the FieldServer. Refer to the Configuration Manual and the Driver Manual(s) provided with the FieldServer for further information on configuration files.

In the main menu of the Remote User Interface screen, type "U" to upload the configuration. Then type "U" again. The Remote User Interface Utility will fetch the default configuration and put it into the Configuration File folder (Start|Programs|FieldServerUtilities|Configuration File folder).

#### 4.8 Change the Configuration File to Meet the Application

Refer to the Configuration Manual in conjunction with the Driver supplements for information on configuring the FieldServer. FieldServer Technologies offers training on this topic as well as a configuration service to complete this portion of the work. See [www.fieldserver.com](http://www.fieldserver.com) for specific details.

#### 4.9 Download the updated Configuration file

- Before attempting to send files to the FieldServer, ensure that the files are in the configuration file folder. Refer to the FieldServer Utilities manual for further information.
- From the main menu, type "D" to access the "download" menu,

- Type "**L**" (for local filename) to specify the name and extension of the file to be sent to the FieldServer. Hit **<Enter>** when done.
- The Remote User Interface Utility will automatically select config.csv for download of csv files. On rare occasions where other files need to be downloaded to the FieldServer type "**O**" for other files, then type "**R**" to specify the remote filename needed on the FieldServer.
- When satisfied that the correct file names are specified, Type "**D**" to download the file to the FieldServer. The Remote User Interface Utility will display a menu showing download progress.

**Note:** the Remote User Interface Utility will indicate when download is complete. DO NOT reset the FieldServer before this message displays, as this could corrupt the FieldServer.

- Once download is complete, hit **<Esc>** to get back to the main menu and use the "**!**" option (or simply cycle power to the FieldServer) to put the new file into operation. Note that it is possible to do multiple downloads to the FieldServer before resetting it.
- Firmware created by FieldServer Technologies can be downloaded from the configuration file by simply typing "**F**" from the download menu. Note that FieldServer usually supplies firmware upgrades as an install.zip, for which a separate procedure is used, (See ENote 037 on the USB flash drive in a folder called Library).

#### 4.10 Test and Commission the FieldServer

- Connect the FieldServer to the third party device(s), and test the application.
- From the main menu of Ruinet, type "**O**" to see the number of messages on each protocol.
- In case of problems, refer to Appendix A or the Troubleshooting Guide which can be found in the FieldServer Utilities directory under Documentation

## Appendix A. Troubleshooting Tips

### Appendix A.1. Connection to the FieldServer

- Confirm that the network cabling is correct.
- Confirm that the computer network card is operational and correctly configured.
- Confirm that there is an Ethernet adapter installed in the PC's Device Manager List,, and that it is configured to run the TCP/IP protocol.
- Check the Ethernet OK LED
- Check the "Activity" LED on the Ethernet connection - this should flash at least once every 2 seconds if RUI is still running.
- Check that the netmask is correct.
  - Go to Start|Run
  - Type in "ipconfig"
  - The account settings should be displayed.
  - Ensure that the IP address is 192.168.2.xxx and the netmask 255.255.255.0
- Ensure that the PC and FieldServer are on the same IP Network, or assign a Static IP Address to the PC on the 192.168.2.0 network using the Remote User Interface Utility. Refer to the FieldServer Utilities manual for information.
- If using Windows XP, ensure that the firewall is disabled.
- Ensure that all other Ethernet cards active on the PC, especially wireless adapters are disabled.
- Refer to the FieldServer Troubleshooting Guide which can be found in the FieldServer Utilities directory under Documentation

### Appendix A.2. Technical support

Before contacting Technical support to report an issue, go to Start|Programs|FieldServer utilities|Tools and run the FST\_Diag program. Take a log (See ENote0058 in the folder called Library on the USB Flash Drive). Send this log together with the configuration file to [support@fieldserver.com](mailto:support@fieldserver.com) for evaluation.

Note that while all necessary documentation is shipped with the FieldServer on the USB flash drive, these documents are constantly being updated. Newer versions may be available on the web at [www.fieldserver.com](http://www.fieldserver.com)

### Appendix A.3. Material Service Orders (MSO) Procedure

A FieldServer Sales Customer Representative can be contacted at 408-262-2299 x104 if a manufacturing defect is suspected. The serial number and reason for return of the product will be requested, and a MSO number will be supplied should the circumstances warrant a return.

Note: 1. Please pack the item for repair securely and ship it prepaid and insured. FieldServer Technologies is not responsible for any damages caused to the product due to shipping.

Note 2. FieldServer Technologies will not accept items for repair without an MSO number.

## Appendix B. Limited Warranty

FieldServer Technologies warrants its products to be free from defects in workmanship or material under normal use and service for two years after date of shipment. FieldServer Technologies will repair or replace without charge any equipment found to be defective during the warranty period. Final determination of the nature and responsibility for defective or damaged equipment will be made by FieldServer Technologies personnel.

All warranties hereunder are contingent upon proper use in the application for which the product was intended and do not cover products which have been modified or repaired without FieldServer Technologies approval or which have been subjected to accident, improper maintenance, installation or application, or on which original identification marks have been removed or altered. This Limited Warranty also will not apply to interconnecting cables or wires, consumables or to any damage resulting from battery leakage.

In all cases FieldServer Technology's responsibility and liability under this warranty shall be limited to the cost of the equipment. The purchaser must obtain shipping instructions for the prepaid return of any item under this warranty provision and compliance with such instruction shall be a condition of this warranty.

Except for the express warranty stated above, FieldServer Technologies disclaims all warranties with regard to the products sold hereunder including all implied warranties of merchantability and fitness and the express warranties stated herein are in lieu of all obligations or liabilities on the part of FieldServer Technologies for damages including, but not limited to, consequential damages arising out of/or in connection with the use or performance of the product.